

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment with regards to the specification and claims was given in a telephone interview with Jeffrey Valley on February 26, 2009.

#### In the Title:

The title has been amended as follows:

Method, System and Program for Providing Subscription-Based Virtual Computing Services

#### In the Specification:

**On page 15, lines 6-14** of the Specification are amended as follows:

Communication media typically embodies computer-readable instructions, data, data structures, program modules, programs, programming, or routines in a modulated data signal such as carrier wave or other transport mechanism and includes any information delivery media. The term modulated data signal means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired

connection, and wireless media such as acoustic, radio frequency (RF), infrared and other wireless media. ~~Combinations of any of the above are also included within the scope of computer readable media.~~

In the Claims:

**Claim 18. (Currently Amended)** A method for providing subscription-based virtual computing services to a subscriber, the method comprising the steps of:

enrolling, by a computer system, a subscriber in a subscription-based computing services program for the provision of virtual computing services to the subscriber under the subscription-based computing services program through a virtual non-volatile storage allocated uniquely to the subscriber and accessible to the subscriber via a server computer during a communication session between the server computer and a subscriber device used by the subscriber, the virtual computing services corresponding to configuration options selectable by the subscriber, wherein enrolling by the computer system comprises the steps of receiving selected configuration options from the subscriber via the subscriber device, and configuring the virtual non-volatile storage in accordance with the selected configuration options received from the subscriber;

exposing, by the computer system, a user interface having a plurality of portions selectable by the subscriber to specify the configuration options for the virtual computing services including a least:

a portion selectable to specify a storage capacity of the virtual non-volatile storage from at least two storage capacity options;

a portion selectable to specify an operating system from at least two operating system options, said server computer operable to install a selected operating system to the virtual non-volatile storage to provide the virtual computing services;

a portion selectable to specify an application computer software program that is installable into the virtual non-volatile storage of the subscriber device for execution by the server computer during a subsequent communication session with the subscriber device; and

a portion selectable to specify whether the server computer is to update the selected operating system when operating system updates become available; enabling, by the computer system, access to and use of the virtual non-volatile storage via the server computer during a communication session between the server computer and the subscriber device, wherein the server computer is configured to use information identifying a type of subscriber device to determine a user interface to be displayed on the subscriber device and used by the subscriber to access the virtual non-volatile storage; and charging, by the computer system, the subscriber in accordance with selected configuration options received from the subscriber.

**Claim 19. (Cancelled)**

**Claim 20. (Currently Amended)** The method of Claim 18 [[19]], wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including access to and use of the virtual non-volatile storage during a subsequent communication session with the subscriber, the virtual non-volatile storage having

storage capacity selected via the user interface and wherein the step of configuring comprises a step of allocating the virtual non-volatile storage to the subscriber for access and use by the subscriber.

**Claim 21. (Currently Amended)** The method of Claim 18 [[19]], wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including the use of an operating system selected via the user interface for execution by the server computer during a subsequent communication session with the subscriber, and wherein the step of configuring comprises a step of installing the operating system in the virtual non-volatile storage of the subscriber.

**Claim 22. (Cancelled)**

**Claim 23. (Currently Amended)** The method of Claim 18, wherein the step of enrolling, by the computer system, comprises the steps of receiving selected configuration options from the subscriber via the subscriber device, wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including automatic updating of an operating system selected via the user interface and stored in the virtual non-volatile storage of the subscriber with patches therefor, and wherein the method further comprises a step of automatically updating the operating system computer stored in the virtual non-volatile storage of the subscriber with patches therefor.

**Claim 24. (Currently Amended)** The method of Claim 18, wherein the step of enrolling, by the computer system, comprises the steps of receiving selected configuration options from the subscriber via the subscriber device, wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including a automatic updating of an operating system selected via the user interface and stored in the virtual non-volatile storage of the subscriber with new versions thereof, and wherein the method further comprises a step of automatically updating the operating system computer software program stored in the virtual non-volatile storage of the subscriber with new versions thereof.

**Claim 25. (Currently Amended)** The method of Claim 18, wherein the step of enrolling, by the computer system, comprises the steps of receiving selected configuration options from the subscriber via the subscriber device, wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including a automatic updating of an application computer software program stored in the virtual non-volatile storage of the subscriber with patches therefor, and wherein the method further comprises a step of automatically updating the application computer software program stored in the virtual non-volatile storage of the subscriber with patches therefor.

**Claim 26. (Currently Amended)** The method of Claim 18, wherein the step of enrolling, by the computer system, comprises the steps of receiving selected configuration options from the subscriber via the subscriber device, wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including a automatic updating of an application computer software program stored in the virtual non-

volatile storage of the subscriber with new versions thereof, and wherein the method further comprises a step of automatically updating the application computer software program stored in the virtual non-volatile storage of the subscriber with new versions thereof.

**Claim 27. (Currently Amended)** The method of Claim 18, wherein the step of enrolling, by the computer system, comprises the steps of receiving selected configuration options from the subscriber via the subscriber device, wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including a automatic nightly backup of the virtual non-volatile storage of the subscriber, and wherein the method further comprises a step of automatically backing up the virtual non-volatile storage of the subscriber on a nightly basis.

**Claim 28. (Currently Amended)** The method of Claim 18, wherein the step of enrolling, by the computer system, comprises the steps of receiving selected configuration options from the subscriber via the subscriber device, wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including a automatic weekly backup of the virtual non-volatile storage of the subscriber, and wherein the method further comprises a step of automatically backing up the virtual non-volatile storage of the subscriber on a weekly basis.

**Claim 29. (Currently Amended)** The method of Claim 18, wherein the step of enrolling, by the computer system, comprises the steps of:

establishing the a communication session with the subscriber device used by the subscriber;

causing the display of the selectable configuration options via the user interface at the subscriber device;

receiving selected configuration options selected by the subscriber from the subscriber device;

determining a cost to the subscriber associated with the provision of the virtual computing services associated with the selected configuration options;

receiving data indicative of the subscriber's agreement to pay the cost associated with the provision of the virtual computing services associated with the selected configuration options;

storing the selected configuration options; and,

terminating the communication session with the subscriber device.

**Claim 30. (Currently Amended)** The method of Claim 18, wherein the step of enabling, by the computer system, access to and use of the virtual non-volatile storage comprises the steps of:

establishing a communication session with the subscriber device used by the subscriber for the communication session;

determining a preferred user interface for use by the subscriber device to interact with the virtual non-volatile storage, the preferred user interface having a plurality of user interface

options selectable by the subscriber using the subscriber device and corresponding to respective performable tasks;

causing the display of the preferred user interface at the subscriber device;

receiving a user interface option selected from the displayed preferred user interface by the subscriber device;

performing a task associated with the received user interface option; and

terminating the communication session with the subscriber device.

**Claim 36. (Currently Amended)** A ~~computer-readable~~ computer storage medium having computer-executable instructions for providing subscription-based virtual computing services to a subscriber, the computer-executable instructions for performing steps comprising:

enrolling a subscriber for the provision of virtual computing services to said subscriber through a virtual non-volatile storage allocated uniquely to said subscriber and accessible to said subscriber via a server computer during a first communication session between said server computer and a subscriber device used by said subscriber, said virtual computing services corresponding to configuration options selectable by said subscriber;

exposing a user interface having a plurality of portions selectable by the subscriber to specify the configuration options for the virtual computing services including a least:

a portion selectable to specify a storage capacity of the virtual non-volatile storage from at least two storage capacity options;

a portion selectable to specify an operating system from at least two operating system options, said server computer operable to install a selected operating system to the



virtual non-volatile storage having the selected storage capacity to provide the virtual computing services;

a portion selectable to specify whether the server computer is to update the selected operating system when operating system updates become available; and

a portion selectable to specify when the server computer is to perform backups of the virtual non-volatile storage;

enabling access to and use of said virtual non-volatile storage via said server computer during a subsequent communication session between said server computer and a subscriber device, wherein the server computer is configured to use information identifying a type of subscriber device to determine a user interface to be displayed on the subscriber device and used by the subscriber to access the virtual non-volatile storage; and

charging said subscriber a subscription fee in an amount related to selected configuration options received from said subscriber.

**Claim 37. (Currently Amended)** The ~~computer-readable~~ computer storage medium of Claim 36, wherein the step of enrolling comprises a step of configuring said non-volatile storage with a computer software program stored therein in accordance with a configuration option selected by said subscriber, and wherein the step of enabling access to and use of said virtual non-volatile storage comprises a step of executing said computer software program in response to receipt of a direction to execute said computer software program from said subscriber during said subsequent communication session.

**Claim 38. (Currently Amended)** The ~~computer-readable~~ computer storage medium of Claim 36, wherein the step of enabling access to and use of said virtual non-volatile storage comprises the steps of:

establishing said subsequent communication session with said subscriber device used by said subscriber for said subsequent communication session;

determining another user interface for use by said subscriber device to interact with said virtual non-volatile storage, said other user interface having a plurality of user interface options selectable by said subscriber using said subscriber device and corresponding to respective performable tasks;

causing the display of said other user interface at said subscriber device;

receiving a user interface option selected from said other user interface by said subscriber;

performing a task associated with said received user interface option; and

terminating said subsequent communication session with said subscriber device.

**Claim 39. (Currently Amended)** The ~~computer-readable~~ computer storage medium of Claim 38, wherein the step of determining comprises the steps of:

collecting information from said subscriber device used by said subscriber during said subsequent communication session while establishing said subsequent communication session with said subscriber device, said information being indicative of the subscriber device type of said subscriber device; and,

ascertaining a user interface most often used with said subscriber device type.

**Claim 40. (Currently Amended)** The ~~computer-readable~~ computer storage medium of Claim 38, wherein the step of determining comprises a step of receiving a selection of said other user interface from said subscriber via said subscriber device used by said subscriber during said subsequent communication session, said selection being indicative of said subscriber's desire to use said other user interface at said subscriber device used by said subscriber during said subsequent communication session.

### REASONS FOR ALLOWANCE

Claims 1, 5-7, 9-15, 18-40 are allowed. The following is an examiner's statement of reasons for allowance.

#### Claim 1

The prior art of record neither anticipates nor fairly and reasonably renders obvious the apparatus of claim 1 for providing virtual computing services to subscribers on a subscription basis, said apparatus comprising a server computer configured to: provide first computing services to a first subscriber of a plurality of subscribers enrolled in a subscription-based services program for the receipt of computing services; provide second computing services to a second subscriber of said plurality of subscribers enrolled in said subscription-based services program for the receipt of computing services; and output a user interface having one or more user selectable portions to enable subscriber selection of configuration options for respective computing services comprising at least: selection of a virtual non-volatile storage capacity from at least two virtual non-volatile storage capacity configuration options; selection of an operating system from at least two operating system options, said server computer configured to install the selected operating system to a virtual non-volatile storage having the selected storage capacity to provide respective computing services; selection of one or more application computer software programs from a plurality of application computer software programs, said server computer is further configured to configure the virtual non-volatile storage with a selected application computer software program selected by said first subscriber; and *selection of whether the server computer is to update the selected operating system and the one or more application computer*

*software program when operating system and application computer software program updates are available; and enable access to said virtual non-volatile storage via said server computer during a communication session, wherein the server computer is configured to use information identifying a type of subscriber device to determine a user interface to be displayed on the subscriber device and used by the subscriber to access the virtual non-volatile storage; wherein said server computer comprises a first virtual non-volatile storage associated uniquely with said first subscriber to provide said first computing services and a second virtual non-volatile storage associated uniquely with said second subscriber to provide said second computing services, said first virtual non-volatile storage being configured according to a first selected virtual non-volatile storage capacity a first selected operating system, a first selected application computer software program, and a first selected update selection based upon configuration options selected by said first subscriber, and said second virtual non-volatile storage being configured according to a second selected virtual non-volatile storage capacity a second selected operating system, a second selected application computer software program, and a second selected update selection based upon configuration options selected by said second subscriber.*

The prior art fails to anticipate or fairly and reasonably render obvious the limitations of the claim taken together as a whole.

One remarkable prior art, cited in prior office actions, is Tremain, US 2002/0069369 A1 (hereafter referred to as "Tremain"), which teaches an apparatus for providing virtual computing services to subscribers on a subscription basis, said apparatus comprising a server computer operable to provide first computing services to a first subscriber of a plurality of subscribers

enrolled in a subscription-based services program for the receipt of computing services (¶¶0043-0044) and to provide second computing services to a second subscriber of said plurality of subscribers enrolled in said subscription-based services program for the receipt of computing services (¶¶0043-0044), wherein said server computer comprises a first virtual non-volatile storage associated uniquely with said first subscriber to provide said first computing services and a second virtual non-volatile storage associated uniquely with said second subscriber, said first virtual non-volatile storage being configurable according to said first subscriber, and said second virtual non-volatile storage being configurable according to said second subscriber to provide said second computing services (Fig. 4 and ¶¶0043-0044, 0174 and 0196-0201). Tremain also teaches a server computer configured to enable access to said virtual non-volatile storage via said server computer during a communication session, wherein the server computer is configured to use information identifying a type of subscriber device to determine a user interface to be displayed on the subscriber device and used by the subscriber to access the virtual non-volatile storage (Figs. 1 and 2, ¶¶0169-0171 and 0174). Tremain further teaches wherein one of the selected configuration options is indicative of the subscriber's desire to receive a virtual computing service including the automatic nightly backup of the virtual non-volatile storage of the subscriber (¶¶0109-0112).

However, Tremain does not teach the server computer outputting a user interface having one or more user selectable portions to enable subscriber selection of configuration options for respective computing services comprising at least a selection of virtual non-volatile storage capacity from at least two virtual non-volatile storage capacity configuration options, a selection of an operating system from at least two operating system options, and the virtual non-volatile

storages associated with each subscriber configured according to the option selected by the subscriber, said server computer operable to install the selected operating system to a virtual non-volatile storage having the selected storage capacity to provide respective computing services, selection of one or more application computer software programs from a plurality of application computer software programs, said server computer is further configured to configure the virtual non-volatile storage with a selected application computer software program selected by said first subscriber; and selection of whether the server computer is to update the selected operating system and the one or more application computer software program when operating system and application computer software program updates are available. Tremain also does not teach wherein said server computer comprises a first virtual non-volatile storage associated uniquely with said first subscriber to provide said first computing services and a second virtual non-volatile storage associated uniquely with said second subscriber to provide said second computing services, said first virtual non-volatile storage being configured according to a first selected virtual non-volatile storage capacity a first selected operating system, a first selected application computer software program, and a first selected update selection based upon configuration options selected by said first subscriber, and said second virtual non-volatile storage being configured according to a second selected virtual non-volatile storage capacity a second selected operating system, a second selected application computer software program, and a second selected update selection based upon configuration options selected by said second subscriber.

Two other related remarkable prior art, cited in prior office actions, are Bandhole et al., US 2002/0171678 A1 (hereafter referred to as “Bandhole”) and Nanja, US 7,065,637 B1 (hereafter referred to as “Nanja”), which teach a system to provide virtual computing wherein the customer can choose the components and configuration for the computing environment from presented options comprising at least a virtual non-volatile storage capacity configuration and a plurality of operating systems, and wherein the virtual non-volatile storages and server computers are configured according to the selected options (Fig. 4 and ¶¶0014, 0033, 0034, 0051, 0054 and 0055). Bandhole teaches that an interface can be used to select the options, which can include storage, operating systems, and application computer software programs (Fig. 4 and ¶¶0014, 00280033, 0034, 0051, 0054 and 0055) and refers to the related application of Nanja. Nanja teaches a server computer operable to output an interface having one or more selectable portions to enable subscriber selection of configuration options for respective computing services comprising at least selection of non-virtual storage from at least two configuration options and selection of an operating system from an least two system options and installing the selected operating system to a non-virtual storage capacity having the selected storage capacity (Figs. 2, 5-8, 10 and 11 and col. 6, lines 51-67).

However, neither Bandhole or Nanja correct the other deficiencies of Tremain in that neither teach wherein the configuration options also comprise selection of whether the server computer is to update the selected operating system and the one or more application computer software program when operating system and application computer software program updates are available and configuring the virtual computing environments based on the update selections.



Another noteworthy prior art, cited in prior office actions, is Hui, US 2003/0220983 (hereafter referred to as “Hui”), which teaches that it is old and well known in the art to periodically download newer versions of computer software programs (§0005), but does not wherein the configuration options also comprise selection of whether the server computer is to update the selected operating system and the one or more application computer software program when operating system and application computer software program updates are available and configuring the virtual computing environments based on the update selections.

A noteworthy prior art, not cited previously, is the non-patent literature “Era of e-Business On Demand Accelerates With IBM Delivery of Computing Power On Tap-‘Linux Virtual Services’ From IBM Gives Businesses Utility-Like Access to Server Processing, Storage and Networking Capacity,” Business Wire, New York, July 1, 2002, which teaches users subscribing to a virtual computing environment configured to the specific subscriber based on its storage and processing needs, but does not cure the deficiencies in the other prior art.

Claims 5-7 and 9-15.

Claims 5-7 and 9-15 are dependencies of independent claim 1 and are allowable over the prior art for the reasons identified above with respect to claim 1.

Claim 18.

Claim 18 recites a method for providing subscription-based virtual computing services to a subscriber comprising steps consistent with and parallel to the limitations and functionalities of

the system of claim 1. This method is allowable over the prior art for reasons consistent with those identified above with respect to claim 1.

Claims 19-35.

Claims 19-35 are dependencies of independent claim 18 and are allowable over the prior art for the reasons identified above with respect to claim 18.

Claim 36.

Claim 36 recites an apparatus comprising a computer-readable medium having computer-executable instructions for providing subscription-based virtual computing services to a subscriber, the instruction performing steps consistent with and parallel to the limitations and functionalities of the system of claim 1. This apparatus is allowable over the prior art for reasons consistent with those identified above with respect to claim 1.

Claims 37-40.

Claims 37-40 are dependencies of independent claim 36 and are allowable over the prior art for the reasons identified above with respect to claim 36.

### **EXAMINER COMMENT**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 11, 2008, has been entered.

### ***Conclusion***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMEE A. SHAH whose telephone number is (571)272-8116. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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